# BANKING POLICY AND THE PRICE SITUATION

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## I. Introduction

Under the title of this paper might be appropriately discussed either the extent to which past banking policy is responsible for the present price situation, or the formation of a present and future banking policy in the light of the present price situation. I take it that it was the intention of the program committee that the discussion should be directed mainly to the second of these questions. The wording of the subject,—Banking Policy and the Price Situation,—indicates that the argument should consider the extent to which the price situation may be modified by banking policy. The main issue would seem to be whether, through the formation of a proper banking policy, a deflation of the currency may be secured which will result in a reduction of prices. We shall, therefore, start with the assumption that it is desirable, if possible, to bring about a general reduction in the price level.

By way of preliminary, it is necessary to emphasize what I conceive to be the indispensably necessary way of approach to the problem of money and prices. For reasons of exposition, general treatises on Political Economy have usually divided the subject matter into Production, Exchange, and Distribution. In this tripartite treatment money is not introduced into the discussion until after goods have been produced. Once produced, however, goods (both consumers' and producers' goods) must be exchanged; and money is the medium for exchanging them. There has developed in this connection the well-known quantity theory which compares the total quantity of goods to be exchanged with the total quantity of monetary counters available for the purpose. If the quantity of money increases more rapidly than the quantity of goods, other things remaining equal, prices will rise,—and *vice versa.* There has been more or less speculation as to whether other things always remain equal; but in the main it has been assumed that increasing or decreasing quantities of currency are the primary factors in causing price changes.

For instance, in a recent article[1] Professor Kemmerer points out

[1] E. W. Kemmerer, "Inflation," in Bankers Statistics Corporation, Weekly Service, New York, Dec. 14, 1919.

that during the war period the total quantity of currency increased more rapidly than the total quantity of goods; and he concludes that the rise of prices is directly attributable to the fact that the quantity of currency has outrun the "needs of trade." But when one assumes the needs of trade to be a constant factor (save where the physical volume of trade increases), he assumes the very point to be proved. If, because of an inordinate demand for goods occasioned by the war, or a scarcity of goods caused by the destruction of capital and a disruption of the economic organization, the expenses of production of goods should be increased, it should be obvious that the needs of trade, as expressed in monetary terms, have changed: it requires a greater quantity of funds with which to conduct the same volume of business.

It is my view that one cannot get far in an understanding of the price making process unless he comes at the problem from the standpoint of production rather than by way of exchange. If one assumes that money has to do only with the exchanging of goods that have already been produced,—that it has nothing to do with the productive process,—he will be likely to conclude that a curtailment of loans and a reduction of bank currency would automatically leave a smaller total volume of currency to be exchanged for the same volume of goods, with the result that the price quotient must be smaller. But if one grasps the significant fact that business borrows funds from the banks as a means of assembling the land, labor, and capital necessary to each stage of the productive process,—from the digging of the raw materials out of the earth, through the various changes in form that occur in the manufacturing process, to the creation of time, place, and possession utilities in the marketing process,—he will recognize that a mere curtailment in the volume of bank currency will not *necessarily* reduce prices. In terms of the quantity theory analysis the volume of trade *might* be reduced in rough proportion to the decrease in the volume of credit currency. Let it be understood that at the moment I am attempting, not to prove the case, but only to suggest a point of view.

A further illustration of what I mean by intimating that a consideration of the price question from the point of view of exchanging goods that have already been produced is almost certain to lead to faulty generalizations is found in the current doctrine,—enunciated repeatedly by both financiers and economists,—that in order to reduce the level of prices we must decrease consumption and increase production. In the words of the *Federal Reserve Bulletin:*

> There must be an increase in production and in saving. The effect of increased production will be to place a larger volume of goods against the

greatly enlarged volume of our purchasing media and thus to reduce prices. The effect of increased saving will be a reduction in the volume of purchasing media in use, and, by consequence, a reduction of prices also.[2]

When the anonymous writer of this quotation says that the effect of increased saving is to reduce the volume of purchasing media in use, he is obviously thinking only of the money used in connection with consumers' goods. Now since consumption is to be reduced, the increased production is doubtless to consist of capital goods rather than consumptive goods. The writer apparently assumes that capital goods (and consumptive goods as well, for that matter) can be produced without the use of bank loans and deposit currency,[3] because he says there is to be an increase of total goods and a decrease in total currency; and thus an automatic fall in the price level. I have never yet known a producer of raw materials which are to be used in the creation of cpaital goods, or a manufacturer engaged in the production of capital goods, or a wholesaler or retailer selling goods which are to be devoted to construction purposes, who did not require working capital with which to finance his operations. And unless it can be shown that goods—either consumptive or capital goods—can be produced without the use of currency, it cannot be argued that increased production will "place a larger volume of goods against the greatly enlarged volume of our purchasing media" and thus automatically reduce prices.[4]

In the analysis which follows an attempt will be made to consider the relation of bank loans to the price question from the point of view of the productive process. It is believed that when currency is viewed as an indispensable handmaiden of production one will arrive at very different conclusions from those reached when one sees the problem of money and prices in purely mechanical terms, as expressed by the equation of exchange.

[2] *Federal Reserve Bulletin,* October, 1919, p. 914.

[3] The statement also contains the implicit assumption that capital goods are not *exchanged* by the use of money. This is in line with most of the quantity theory analysis. See, for instance, Professor Fisher's scales with money on one side of the balance and bread, cloth and coal on the other. *Purchasing Power of Money,* p. 23.

[4] I should not like to be understood as opposing an increase of production. From every point of view it is of paramount importance (See footnote, p. 175). I am here only indicating the futility of assuming that an increase of production will not require the use of currency.

## II. Results of Loan Contraction

Let us consider, first, the various means by which the volume of bank currency might conceivably be contracted. The possibilities are as follows:

1. By a reduction of commercial loans to producers of raw materials, manufacturers, wholesalers, and retailers.
2. By a reduction of collateral loans to these same classes of business men.
3. By a reduction of collateral loans to investment banking institutions.
4. By a reduction of collateral loans to speculators.
5. By a reduction of collateral loans for consumptive purposes.
6. By a reduction of the direct investments of banks in securities.

Suppose we trace the precise results that might be expected to follow from a policy of loan contraction in each of these cases:

1. *By a reduction of commercial loans.*

It is necessary for producers of raw materials to borrow working capital with which to meet operating expenses. A reduction in commercial loans to these producers would decrease the amount of working capital available for their operations and thus reduce the volume of production of raw materials. Only in the event that the working capital required could be raised by the selling of additional securities would they be in a position to continue production as usual. There is, indeed, another theoretical alternative,—that of reducing wages. If in view of present labor psychology and present labor organization, anyone thinks this a practicable means of decreasing the costs of business and hence the volume of working capital required, he is of course entitled to the opinion.

The manufacturer, also, borrows a considerable proportion of his working capital from the commercial banks. The immediate effect of a curtailment of his loans would likewise be a reduction in the volume of production; for the manufacturer would have less money with which to meet payroll requirements and less with which to purchase the raw materials required.

A reduction of loans to wholesalers and retailers would follow as an inevitable consequence of a reduction of loans to producers of raw materials and manufacturers; because a decreased volume of production farther back in the productive process would mean a smaller volume of goods to pass through the hands of middlemen. Hence a smaller volume of working capital would suffice to conduct the marketing process.

The result of this curtailment of loans for commercial purposes would in every case very obviously be to decrease the volume of deposit currency. It would also doubtless reduce somewhat the volume of Federal Reserve notes. But would it necessarily reduce prices?

A lessened volume of production on the part of producers of raw materials and manufactures would have important economic results, aside from a reduction in the volume of bank currency. In the first place, it would mean an increase in the number of unemployed laborers and a consequent decrease in the demand for the produce of industry generally. This fall in effective demand would very likely result in a decrease in the price of goods that had already been produced and were awaiting sale to consumers. But this does not necessarily imply that *additional* goods could be produced at the lower prices. For, second, a reduction in the volume of production as a result of the contraction of loans would not directly decrease the cost of production of these additional goods. On the contrary, the necessary result of running plants at part-time capacity would be to increase the cost per unit, because of the persistence of fixed charges. If prices are to cover expenses of production they could not, under such circumstances, well be reduced,—except of course in so far as present prices are above cost of production.

But a declining demand, accompanied by increasing costs, would in time precipitate a great many business failures, which in turn would swell the volume of unemployed, still further reduce consumptive demand, and intensify the depression. Such a depression might, and I believe would, result in a substantial fall in prices. In fact I think that only by the road of depression can a substantially lower price level be obtained. The result of a widespread depression might well be the development of a price-cutting policy on the part of low-cost concerns, instituted in the hope of enlarging their volume of sales at the expense of competitors.[5]

At the same time the large volume of unemployment that would develop might result in wage cutting, as was always the case in the old days of unorganized labor. Whether in the face of a vast amount of unemployment labor would be able, through improved organization, to resist a reduction in wage rates is a question about which I do not care to prophesy. It is sufficient for our present purposes to point out the *possibility* here of a real reduction in the level of prices.

And let it be observed that a depression would of itself bring about

[5] See discussion below pp. 174-5.

a reduction in the volume of currency in circulation. The decreased production that characterizes a depression is always accompanied by a decrease in the volume of loans, and hence of deposits. Bank reserves fill up, and remain unused so long as the depression continues.

It should be noted, also, that if the prices of raw materials were substantially reduced and if wages were forced down, the expenses of production of manufacturers using raw materials and employing labor would likewise be reduced; and that as a necessary result of this the prices paid by wholesalers, retailers, and consumers would also be proportionately lower. This reduction in costs would still further reduce the volume of deposit currency, for the reason that all along the line the amount of working capital required per unit of product would be less. Smaller loans would accordingly suffice and thus the volume of currency would be further contracted, with reserves still further replenished.[7] It follows from this that if, after a period of depression, the volume of production should once more increase to its present proportions, the amount of deposit currency required for productive purposes would still be less than it is at present. The lower the expenses of production the less the amount of currency required per unit of product.

2. *By a reduction of collateral loans to producers, manufacturers, and middlemen.*

Collateral loans are secured by the above classes of business men for both working and fixed capital requirements. A reduction in the volume of collateral loans for working capital purposes would obviously have the same effect as a reduction in the volume of *non*-collateral loans for working capital purposes. Accordingly, the results of a policy of loan contraction would here be precisely the same as those outlined under (1) above.

A contraction of collateral loans for the purpose of creating fixed capital would decrease the amount of new construction, and would thus serve to check the creation of additional capital goods. A reduction in loans would, once more, undoubtedly decrease the volume of bank deposit currency outstanding, but it would also check the volume of production. The only alternative to this would be to raise the fixed capital required through the issue and sale of new securities.[8]

Would the curtailment effected through a contraction of collateral

[7] Whether this increase of reserves would ultimately stimulate a new price rise is another question. There is in any event abundance of evidence that it would not automatically and immediately do so.

[8] See analysis below, pp. 165-7.

loans for fixed capital purposes result in a reduction of prices, assuming for the moment that the required funds could not be secured from other sources? It seems to me obvious that a curtailment of new building operations would have no effect upon the expenses of production in existing establishments, and hence would not tend to reduce prices. On the contrary, I suppose most economists, viewing the problem from the standpoint of demand and supply, would hold that a curtailment of building operations would tend to create scarcity values for the produce of existing factories, and thus raise prices above the necessary profit level. This is, indeed, an important factor in the present price situation.

3. *By a reduction of collateral loans to investment banking institutions.* Underwriters and investment bankers are heavy borrowers upon stocks and bonds as collateral security. A reduction in the volume of such loans would serve to reduce the amount of securities that could be marketed by the investment banking institutions. The result of such a curtailment in the volume of securities that could be marketed would be to check the amount of capital that could be raised for the development of new and the extension of existing business enterprises. The results of this would be similar to those discussed under (2) above.[9]

[9] It may be of interest to call attention in this connection to the part that money and credit played in the era of industrial expansion from 1898 to 1901. As is well known there was a great increase in the world production of gold during those years, and a very great expansion of deposit currency. In commenting upon this increase of money and credit monetary theorists state that it was largely responsible for the rapid rise of prices during the period; and they lead one to believe that if the volume of money and credit had not increased we should have had a stable price level, and also the same economic development that in fact occurred. This last inference,—whatever may be the case with reference to prices,—is entirely unwarranted. It has been estimated by one of the leading New York banks that about 60 per cent of all the investment funds that were required for the development of new and the expansion of old industries during these years came directly from the commercial banking institutions. At the time we were not a nation of investors; and it was impossible for enterprises needing funds with which to finance their operations to market all their securities with the general public. The new enterprises were underwritten by the investment bankers and the securities were carried for years on funds borrowed from the commercial banks,—funds which could not have been borrowed in the absence of the increase in the quantity of gold and credit currency; moreover, in the absence of such borrowing much of this industrial development could not have taken place. What is true of the years 1898 to 1901 is only less true of the succeeding five years. Considerations such as these reveal as nothing else could the irrelevancy of most of the monetary theory which proceeds upon the assumption that money functions only in exchanging goods that have already been produced.

4. *By a reduction of collateral loans to speculators.*

For the purpose in hand, speculators may be divided into two classes: (1) those engaged in stock market operations; (2) those engaged in real estate and mercantile speculative activities. So far as collateral loans to the stock market are concerned, there is again no question but that a contraction of the volume of loans would immediately reduce the volume of outstanding deposit currency. This has indeed happened on several occasions during recent months. But such a reduction of outstanding bank currency would not reduce the prices of commodities generally. Does anyone imagine, for instance, that it would lower the price of iron and steel? Would it reduce the prices of building materials, of coal, of textiles, or of leather goods? If we look to the process by which actual price changes are effected we can find no ground for believing that prices would automatically fall. Moreover, no effect on general prices is discernible as a result of the stock market collapse of November and the subsequent restriction of stock exchange loans.

Viewing the problem from the standpoint of the quantity theory, it is clear that a contraction of stock exchange loans and a consequent contraction of the volume of deposit currency would not immediately affect the quantity of money offered in exchange for the quantity of commodities in general. It would merely increase the volume of bank reserves,—reserves which for a time might well remain unused. These reserves are rendered *available* for other purposes; but whether they will shortly be used for such purposes depends upon general business conditions and upon the general loaning policy which we are here discussing.[10]

A contraction of loans to speculators in real estate would undoubtedly tend to prevent a rise in the price of real estate purchased with borrowed funds in anticipation of a subsequent advance. And in so far as the price of land enters into the general level of prices, a curtailment of loans for land speculation would tend to reduce the price level. This is not, however, a major factor in the price situation.

[10] If Professor Fisher's analysis is sound, if the price level is automatically derived by dividing total currency by total trade, this release of funds from stock speculation should tend "at least immediately" to raise the prices of commodities, for it would increase the number of (available) monetary counters as compared with the number of units of goods to be exchanged. To put it another way, if trading in stocks be included in the total volume of trade, a curbing of stock speculation would reduce the volume of trade; hence, according to the equation of exchange, it should raise prices, because the ratio of money and credit to trade would be increased.

A contraction of loans to speculators operating on the produce exchanges would not necessarily reduce prices. Such speculation at times raises prices; at other times it lowers them. And it is accepted theory that the significant result is to reduce the range of price fluctuations,—to promote price stability. It is also accepted theory that the cheaper assumption of risks which professional speculation makes possible serves to reduce the margin of cost between producer and consumer and thus tends to keep the prices of foodstuffs lower than they would otherwise be.

But would not a contraction of loans to hoarders of food and other commodities, who, with borrowed funds, purchase supplies in anticipation of a rise, effectively reduce prices? For the moment, yes; but ultimately, no. The effect of such a bidding for supplies is first to raise prices, and then to reduce them later when eventually the hoarded stocks are offered for sale. I have closely followed the data presented by the Department of Justice purporting to show that hoarding is in fact a potent cause of present high prices; but I have thus far failed to find any convincing evidence that it is an important factor in the recent price advances. Speaking generally stocks on hand appear to be unusually low.

There is one way, however, in which speculative activities may have been instrumental in raising prices. A period of rapidly rising prices is likely to induce a good deal of buying by newly organized speculative concerns which hope to reap a profit by selling at an advance over costs. There is reason to believe that there has been some of this abnormal speculation in foodstuffs and other necessities in recent months. Such enterprise undoubtedly forces prices upward. An increasing number of additional dealers, serving no economic function, are nevertheless able to make profits by selling at a price above costs to them, which in turn compels the retailers to sell at higher prices than would otherwise be necessary. The impetus to the price advance in such cases comes not so much from the bidding up of prices by consumers with enlarged purchasing power, as from the activities of dealers who have interposed themselves in the distributive process.

A careful scrutiny on the part of banks of the uses to which the funds borrowed are put and a contraction of loans to concerns which are performing no legitimate economic function would be of undoubted benefit. It would serve to lessen somewhat the margin of difference between the prices paid by consumers and the prices paid to the original producers. But after all allowance is made for such loans, it must be concluded that they are not a major factor in the price situation.

5. *By a reduction of collateral loans for consumptive purposes.*

I think it is not improbable, although data on the subject is wanting, that in the last nine months a considerable volume of loans has been made on the basis of government securities as collateral, the proceeds of which have been devoted to consumptive uses. Such an expansion of bank deposit currency serves directly to increase the effective demand for consumers' goods. And it may well be that the force of original demand, thus augmented by borrowed funds, has served to raise the price of consumers' goods above what is necessary to afford a satisfactory profit to producers. In other words, while I insist that only by a consideration of the expenses of production can one adequately gauge the possibilities of a general reduction in prices, I would be the last to deny that in periods of very active demand for goods selling prices may rise enough to permit abnormal profits; indeed, I am well aware that we have had an extraordinary sellers' market in recent months. The extent to which prices can be lowered by a contraction of consumption loans will, however, still be governed by considerations of cost.

I should of course favor a rigid curtailment of loans for consumptive purposes. Such action would to some extent reduce the prices of consumers' goods and lower the margin of profit of producers and dealers in such commodities. We could not expect such action, however, to effect any very substantial fall in the general level of prices.

6. *By a reduction of bond investments.*

It is widely believed that one of the chief possibilities of deflation lies in a reduction in the volume of bond investments by commercial banks. If the bond holdings of the commercial banks are to be reduced, it must obviously be through the process of sale to other investors, for if individuals were to be allowed to purchase such investments on borrowed funds there would obviously result no material change in the volume of deposit currency; the funds turned over to the bank in payment for the bonds would merely be borrowed from the banks on these bonds as collateral security on a five or ten per cent margin. The problem of selling these securities outright to investors and the economic results of the process involves an interesting analysis.

One means by which they might be bought outright is by a reduction in existing savings accounts. If A withdraws $1000 from a savings bank, he can purchase a $1000 bond; but he thereby reduces the volume of securities that savings banks themselves can purchase. The result (making no allowance for reserve) is, therefore, merely to trans-

fer the ownership of securities. Again, if A cashes in on an insurance policy and purchases securities with the funds received, he would be enabled to purchase bonds now held by the banks; but the investments of insurance companies would obviously be proportionately reduced. The result would once more be merely a shifting of the ownership of the bonds, so it would not promote an increase in the total bond investments.

In similar fashion, to the extent that individuals purchase these government obligations instead of other securities—the new issues that are being underwritten from time to time—another shifting process is involved. The absorption of the security holdings of the banks is at the expense of the investment market generally.

The only remaining means of increasing the total investment holdings of private individuals is through a curtailment of consumption and a consequent increase in the flow of funds to the investment market. This means has been strongly emphasized by the Federal Reserve Board, the Treasury Department, leading financiers and economists; and it therefore merits the most careful consideration.

If carried far a reduction in consumption for the purpose of investing in government bonds, would bring about a decrease in the output of consumptive goods. Granted that a reduction in the production of consumers' goods would, under present circumstances, immediately result in an increased production of capital goods, we are by hypothesis here agreed that the funds saved through the curtailment of consumption shall not be devoted (exclusively) to the financing of new capital formation; they are to be used, so far as necessary, for the purchase of bonds now in the possession of commercial banks. Only in so far as the increased volume of investment funds exceeds the amount necessary for relieving the banks of their government holdings, would this saving process afford funds for new capital requirements.

A transfer of the security holdings of commercial banks to individual investors, made possible by a reduction of consumption, would, however, obviously increase the reserves and hence the lending power of the banks. This strengthening of the reserve position would at the same time be furthered by whatever reduction in prices resulted from the decline in consumptive demand. Hence would not the commercial banks be in a position to provide the additional funds required for expanding industry?[11] Yes,—at least to a considerable extent[12]—pro-

[11] Note that with declining consumption these funds will not be needed for additional commercial loans.

[12] But see below pp. 172-3.

vided we are willing to see the banks replace their government security investments by industrial securities;—otherwise no.

Those who hope to accomplish a reduction in the quantity of deposit currency by the process of reducing the bond holdings of the commercial banks would not of course countenance any absorption of industrial or other securities by them. For reasons that have been fully stated elsewhere my own view is that investments in high grade securities do not imperil the liquidity of bank assets,[13] and I should therefore be willing to see the funds of the commercial banks used in financing the new capital requirements; or for that matter see them tied up in government issues, with the investing public rather than the banks furnishing the funds for the new capital requirements. In any event it is clear that to the extent that this is allowed to transpire we shall not have secured a net reduction in the volume of currency outstanding; "deflation" will not have been accomplished. To the degree that investors buy government issues rather than the new industrial issues, and the banks replace their government holdings by private securities, we shall have had only a shifting process.

It must be recognized, however, that an essential part of this shifting process as outlined above is a shifting of funds (caused by the increased saving) from the financing of the production of consumptive goods to the financing of the production of additional capital goods. This is clear gain.[14] But it is to be noted that this increase of saving does not,—as the quotation from the *Federal Reserve Bulletin* on pp. 157-8 would have us believe,—lessen the total quantity of currency in circulation, and thereby reduce prices. It merely shifts the use of these funds to different lines of productive activity. Except in so far as a curtailment of consumption directly reduces selling prices, as noted above, the shifting process that we have been discussing will not affect the general level of prices. Expenses of production, as determined by present wage rates and operating costs generally, will mark the dead line below which prices cannot fall.

It remains to point out, finally, that since this increased saving and the resulting release of funds for new capital formation amounts only

13 "Commercial Banking and Capital Formation," II and III, *Journal of Political Economy,* June and July, 1918.

14 Under present conditions I am as strongly in favor of thrift as anyone. I mention this only because in a recent article ("Commercial Banking and Capital Formation," IV, *Journal of Political Economy,* November, 1918) I attacked the doctrine of unlimited thrift under all circumstances. The present is one of the periods in which reduced consumption is a prime necessity.

to a diversion process,[15] involving a lessening of the total quantity of production of consumption goods and a proportionate increase in the production of capital goods, it leaves untouched the question of the possible provision of funds for an expansion in the *total quantity* of business. This important phase of the general problem of industrial expansion is discussed on pp. 172-3 below.

A brief summary of the conclusions thus far reached will serve to knit together the results of the rather diffuse discussion of the foregoing pages:

1. A reduction in commercial and collateral loans to producers of raw materials, manufacturers, wholesalers, and retailers would reduce the volume of outstanding currency; but it would not directly reduce prices. On the other hand, it would certainly reduce the volume of production.

2. A reduction of collateral loans to investment banking institutions would curtail the volume of industrial and other securities that could be marketed, and thus impede constructive developments. It would have no effect on prices.

3. A reduction of collateral loans for purposes of speculation and consumption is desirable. Loans to food and mercantile speculators, and to individuals for consumptive purposes, tend to raise the level of prices; and a curtailment of such loans would to a slight degree lessen the present cost of living.

4. The investments of commercial banks in government securities could be reduced by a shifting process, the result of which would be to increase the reserves in the commercial banking system. By an increase in saving, the total volume of investment funds might also be increased, thus shifting currency from its use in financing the production of consumptive goods to the financing of the production of capital goods.

Whether the total volume of funds will be adequate for an era of expansion on the basis of present prices remains for further consideration.

## III. Federal Reserve Policy

In the foregoing discussion of the contraction of loans by commercial banks we have been assuming that it would be possible to compel or induce the banks of the country to make a direct contraction in the volume of their outstanding loans. As a matter of fact, a contraction

15 Except in so far as a possible fall in prices, for the reasons noted, lessens the volume of funds required for financing a given volume of production.

of loans can usually be brought about only by indirect means.[16] Two ways have been suggested by which the Federal Reserve Board might effect a curtailment of member bank loans: (1) by discriminating against loans of Federal Reserve banks to member institutions on "war paper" as security; and (2) by raising the rates of discount on all classes of paper.

A reduction in the volume of loans to member banks secured by "war paper,"—and the great bulk of credit extension to member banks has been on such paper rather than by the process of rediscounting customers' commercial notes,—could be effected either by making prohibitive rates on such loans or by bringing pressure to bear on the banks for a voluntary reduction in the volume of such holdings.[17] In order to ascertain the deflating possibilities of such a reduction in loans to member banks it will be necessary to inquire whether such a policy would necessarily reduce the total lending power of the member banks.

A curtailment in the volume of such loans would not reduce the net balances of member institutions with the Federal Reserve banks, so long as the volume of commercial paper available for rediscount is adequate. If member banks are compelled to reduce their borrowings from the Federal Reserve banks on "war wages" the result will merely be, so long as a demand for their funds continues, to shift the borrowing process to commercial paper. There would thus be no change in the total amount of credit extension by the reserve banks. This is what has been happening in recent weeks.

But even if a reduction in the *total* volume of credit extension by Federal Reserve banks to member banks could be secured, the lending power of the member banks would not necessarily be reduced. Funds may be drawn from the Federal Reserve banks by an indirect process. When in the early summer the Federal Reserve Board issued its warning against heavy borrowing by member banks for speculative purposes, the banks of New York reduced their applications for loans from the Federal Reserve bank. But this merely led the member banks to neglect the purchase of acceptances in the open market, in order that they might have sufficient funds with which to take care of their regu-

[16] An exception is to be noted, where the New York banks, apparently at the request of the Federal Reserve Board, recently made a sharp curtailment in the volume of brokers' loans.

[17] Loans by the Federal Reserve banks to member banks were authorized by an amendment to the Federal Reserve law, passed September 7, 1916. In the absence of a counter amendment, moral suasion or high discount rates constitute the only means of eliminating such loans.

lar borrowers and to take advantage of the high rates obtainable on call loans. In the interest of the acceptance market the Federal Reserve banks were obliged to step into the breach and purchase the bills which normally would have been bought by the member institutions. This purchase of acceptances released funds from the Federal Reserve banks, which unquestionably found their way into the loan market. From the end of May to July 11, the Federal Reserve bank of New York alone increased its purchases of acceptances by over $74,000,000. To that extent its resources were by an indirect process placed at the disposal of member banks.[18]

If the total volume of bank loans is to be reduced it will therefore be necessary for discount rates to be raised on all classes of paper and for the Federal Reserve banks to refuse to expand their open market purchases. A raising of discount rates on all classes of loans by the Federal Reserve Banks would undoubtedly tend eventually to reduce the total borrowings from the Federal Reserve banks and in turn the total volume of loans made by member banks to customers. A raising of the rate of discount at the Federal Reserve banks tends to increase the discount rates on all loans by member banks. For instance, the recent increase in discount rates was almost immediately followed by a stiffening of rates on brokers' paper, on over-the-counter loans to customers, and on collateral loans.

An increase in the discount rates at commercial banks, moreover, tends to increase the interest rates on fixed capital. A considerable volume of funds, borrowed on single-name promissory notes, is used for investment purposes, and a much greater volume, borrowed on short-time notes secured by collateral, is also used for fixed capital. Indeed, as the writer has elsewhere shown,[19] over 60 per cent of all loans and investments made by commercial banks are, either directly or indirectly, devoted to fixed capital uses. There is accordingly a very close relationship between long- and short-term interest rates.

While an increase in the rates of rediscount would curtail the volume of outstanding loans, it should not be overlooked that it will accomplish other things as well. For instance, it will increase the costs of conducting business all along the line. This increase in costs must be reflected either in increased prices or in decreased profit margins. It is necessary that we clearly perceive that one result of the increase in rediscount rates will therefore be to curtail the possibilities of busi-

[18] See *Commercial and Financial Chronicle,* July 26, 1919, p. 330.

[19] "Commercial Banking and Capital Formation," *Journal of Political Economy,* II, June, 1918.

ness expansion during the coming year. There is a tremendous need for construction of additional houses, additional railroads, additional public utilities, and additional industrial equipment in order to permit us to recover from the effects of the curtailment of construction operations during the war. To raise the rates of discount at the present time will increase the cost of such construction at a moment when such building operations are already being seriously retarded in consequence of the enormously high cost of construction.

Let it once more be emphasized that the funds for such constructive development must come either from the commercial banking system,—through direct investment in industrial securities, by short-time loans to builders secured by collateral, or by loans to investment banking institutions on investment securities as collateral,—or else they must come from a reduction in consumption which would enlarge the funds available for individual investments.

In the discussion of saving, above, it was assumed that a substantial increase of saving might be secured. But the truth is that we have no effective machinery for making thrift a reality. As a practical problem the Federal Reserve Board cannot shape its discount policy on an assumption that thrift is an assured prospect. In fact, the nation as a whole cannot be expected to reduce materially its volume of consumption. Total production is, according to data published in the *Federal Reserve Bulletin,* less than normal at the present time; and if we may judge from the clamor over the high cost of living, the rank and file of people in this country are in no mood to tighten their belts. Certain groups can of course do with less; but others must have more: witness the "recognized necessity" of compensating wage and salary increases. As a practical matter, therefore, it would seem that the funds required for financing new construction will have to come,—if they come,—largely from the commercial banks.

It may be objected that the funds required for the investment enterprises under consideration can be supplied through corporate diversion of earnings from dividend payment to new construction. With reference to this it must be said, first, that railroad and public utility capital requirements cannot be met out of railroad and public utility earnings,—whatever may be true of industrial enterprises. The general investing public,—wage earners, salaried classes, and receivers of interest and profits,—must be looked to for the funds required, if commercial banks are not to be allowed to make the necessary credit extensions. But even if the funds required could be secured entirely from corporate earnings, the loaning power of the commercial banks would

not be unaffected. To the extent that earnings are used directly by business concerns in the construction of additional capital, they are not deposited in the commercial banks and there rendered available for the additional requirements of business; reserves would therefore be lower, with the result that the total volume of loans that could be made would be less than otherwise. In other words, this process would not relieve the strain on the financial system in general; assuming the same volume of production of both consumption and capital goods, the total volume of working capital would remain unchanged.

Having thus pointed out that a policy of increasing discount rates will increase costs of business and thus tend to reduce loans and check expansion of industry, it remain to inquire if, in view of the financial and economic conditions of the present, such a policy might not nevertheless be wise. My conclusion is that it would be wise; because the financial liabilities of the Federal Reserve system have been expanded, largely by virtue of the rise in prices that has occurred in the last five years, to a point where it is dangerous to expand them further,—indeed, where it is impossible to expand them very much further without reaching a breaking point. Unless we have been wrong in our conception of the function of the Federal Reserve system and of European central banks, the time has arrived in the United States when a curtailment of further credit expansion is absolutely necessary.

We have now reached the crux of our entire analysis. Since funds are required to finance the production of both capital and consumptive goods an expansion of the total volume of production (on the present price level) will require an expansion in the *total volume* of loans and hence of deposit currency. Are funds available for a great expansion in the total volume of production?

At the time of writing (late December) the reserves of our Reserve banks are less than 45 per cent of note and deposit liabilities,—with 40 per cent the virtual dead line. The total volume of credit could still be expanded by nearly a billion dollars before the reserves of the system as a whole were reduced to the final limits prescribed by law. It is possible, therefore, that the present trend of affairs might continue for another year. But an increasing volume of business conducted on an ever-rising price basis will inevitably bring us to the limit of expansion in our banking system within a relatively short time. Just how long would depend, on the one hand, on the rate of credit expansion, and, on the other hand, upon the rate of decline of

our gold supply which serves as the basis for the credit superstructure.[20]

If we allow the situation to go forward until the reserves of the Federal Reserve system have been reduced to the legal minima we shall be in precisely the same situation that we have always been in time of crisis, namely, with a fundamental need for a temporary expansion of loans with which to tide the business world over a threatening financial abyss, but with utter inability to make any such expansion. The theory underlying the Federal Reserve control of discount rates is undeniably sound,—that of checking the upward swing of the business cycle in time to prevent a collapse of the credit machinery when the crisis stage of the cycle has been reached. It is the plain duty of the Federal Reserve Board, in the light of the present situation, to remove the possibility of a financial panic by conserving the reserves of the Federal Reserve system *now*,—by raising the rates of discount.

In some respects the present situation is different from that which ordinarily obtains in periods immediately preceding a financial crisis. We have not gone through an era of construction; on the contrary the greatest step in our entire economic resources at the present time is the dearth of capital goods. As a result, profit margins in existing establishments are large and business failures few. On the other hand, our foreign trade situation is quite abnormal. But in many respects the present phenomena closely parallel those of other critical periods. In any event, the breaking point in finance is not far distant; and, regardless of other contingencies, if the financial system breaks on the rock of exhausted surplus reserves, there will be precipitated a general economic collapse.

It is necessary at this place to make certain qualifications, for it is conceivable that we may pass through the year 1920 without a further increase in the total volume of bank loans and thus without reducing the ratio of reserves to liabilities to the irreducible minimum. A rigid curtailment of loans for consumptive and speculative purposes would ease somewhat the strained condition of the money market. And a great reduction in the volume of foreign trade, coincident with a great increase in imports, which would reduce the volume of production of American manufacturers for the domestic market, would materially lessen the total volume of loans required for financing pro-

[20] An adequate discussion of this problem of a declining gold reserve in relation both to our financial and industrial situation for years to come would carry this paper beyond all reasonable limits.

duction. In addition to these possibilities for relieving the strained money market, strikes may serve to reduce the total volume of production and with it the volume of working capital required. On the other hand, these factors will tend to be offset by the increasing expenses of production in many lines, made necessary by increasing wage bills. A rise of transportation and public utility charges generally would serve to increase the expenses of production in industry everywhere, with the result that prices would continue to advance in 1920 as they have in 1919.

These possibilities in both directions are obviously contingent upon many factors which cannot be predicted with any certainty. Whichever way we turn, however, we face a not distant prospect of an industrial depression. Declining exports and increasing imports, while lessening the strain upon the money market, would nevertheless produce a depression. On the other hand, if our present abnormal foreign trade situation continues throughout 1920 American business will find plenty of outlet for its supplies; but the strain on the money market would then be such as to render imperative a contraction in the volume of business through the instrumentality of high interest rates. If strikes continue to work havoc with the industrial system as they have been doing in recent weeks a serious business depression will be the inevitable concomitant. If, on the other hand, strikes are avoided by the process of granting demands for wage increases, a business depression might for a time be checked; but the expansion of bank currency required would sooner or later bring us up short at the financial breaking point.

This last statement perhaps needs elaboration. The higher the wage bills, the greater the volume of funds required for working capital purposes; hence business men would have to increase the volume of their loans; and thus the volume of deposit currency would be expanded and the ratio of cash reserves to deposits increased.[21] Because of the limitations of our financial mechanism it is therefore impossible to remedy the cost of living dilemma by increasing wages in proportion to price advances,—however unjust the burden that may have been placed upon the workers in consequence of the rising prices of the last few years. If other things remained equal, a billion dollar increase in wages would alone reduce the reserves of our banking

21 It doesn't at all matter in this connection whether the wage increases be regarded as cause or result of price advances. The significant point is that more funds are required to finance a given volume of production after wages are increased.

institutions below the minimum requirements laid down by the Federal Reserve act.

Since, in view of these contingencies, we cannot with safety count on an uncontrolled contraction of deposit currency in the near future, I am forced to conclude that the Federal Reserve Board should exercise its control over the situation, substantially raise the rates of discount, and apply the brakes to industry now.[22] Such a policy is not alluring, but it appears to be the least of many evils.

Since a depression is in any event inevitable sooner or later, I am inclined to the belief that the sooner it comes the better,—now that the return of the army to civil life has been accomplished. For if my analysis of the situation is sound, the only means by which a substantial fall in the level of prices, and a replenishment of bank reserves can be brought about is through depression.[23] And such a reduction of prices and bank currency in circulation must be brought about if the economic and financial structure is to be so adjusted that an era of constructive development may be inaugurated. A great period of construction cannot possibly be started from a high cost basis, when at the same time banking reserves are at or near the irreducible minimum. We should therefore welcome a depression and the resulting shrinkage of values as a necessary prelude to better days. In view of the economic phenomena of the present situation, there is good reason to believe, moreover, that a depression would be of shorter duration than is ordinarily the case. Consideration of this is, however, beyond the province of the present paper.

22 There is some reason to doubt (the Federal Reserve Board has expressed such a doubt) the efficiency of higher discount rates to bring about the desired results, under present conditions. The demand for goods in most lines is so inordinate and profits,—that is money, as distinguished from real profits,—are so large that a very considerable rise in interest rates might fail to check expansion. If so, we may as well face the fact that within a year,—barring offsetting developments in other directions, as discussed below,—we shall have an old fashioned panic. My own view is that rates of seven or eight per cent would serve to check further expansion of business.

23 There is, indeed, another possible means, though it appears to hold forth little hope of realization. Increased efficiency in production would lessen the costs of production and thus permit a reduction in prices. This would at the same time lessen the volume of funds required to finance each unit of product, and thereby tend to relieve the strain on the money market. Both labor and capital psychology is such, however, that I see little prospect of an early realization in this direction.